

GenCore version 4.5
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OM nucleic - nucleic search, using sw model

Run on: November 26, 2001, 09:16:10 ; Search time 149.54 Seconds
(without alignments)
17612.031 Million cell updates/sec

Title: US-08-482-402A-2
Perfect score: 3072
Sequence: 1 gagcgattgagcgccat.....atagctcaaaaaaaaaa 3072

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 930621 seqs, 428662619 residues

Total number of hits satisfying chosen parameters: 1861242

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : N-Geneseq_1101.*
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22: /SID27/gcgdata/geneseq/geneseq/NA2001.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	ID	Description
1	3062.4	99.7	3072	14 AAQ37493 Human TPO gene. H
2	3004	97.8	3048	14 AAQ53061 Human thyroid pero
3	3003.4	97.8	3050	16 AAQ90304 Human thyroid pero
4	2998.4	97.6	3045	14 AAQ40728 Human TPO gene lac
5	2801.4	91.2	2847	19 AAV32403 Thyroid peroxidase
6	2511.4	81.8	2546	20 AAX37301 Human thyroid pero
7	469.8	15.3	2260	11 AAQ03118 HindIII/HpaII frag
8	469.8	15.3	3215	18 AAT66437 Myeloperoxidase co
9	464.2	15.1	2272	21 AAZ45456 Nucleotide sequenc
10	438.2	14.3	2558	21 AAF20923 Human eosinophil p
11	438.2	14.3	2558	21 AAA34801 Human adenosine re

12	438.2	14.3	6103	21	AAF21441	Human eosinophil p
13	417	13.6	5510	21	AAZ51671	Human p53 target m
14	417	13.6	6847	20	AAV99922	Melanoma associate
15	386	12.6	2710	12	AAQ11842	Bovine lactoperox
16	367.8	12.0	1386	19	AAV11507	Recombinant MPO DN
17	347.8	11.3	35384	21	AAF21436	Human enzyme-relat
c	314.4	10.2	316	20	AAV72576	Thyroid peroxidase
c	298.8	9.7	2637	21	AAC93446	Human secreted pro
20	288.8	9.7	2736	22	AAQ08330	Human secreted pro
21	289.4	9.4	1399	12	AAQ11843	Human lactoperoxid
22	199.2	6.5	702	19	AAV11509	Recombinant MPO DN
23	190.6	6.2	615	19	AAV11514	Recombinant MPO DN
24	183.6	6.0	699	19	AAV11508	Recombinant MPO DN
25	165.8	5.4	169	20	AAV72575	Thyroid peroxidase
26	146.2	4.8	417	19	AAV11511	Recombinant MPO DN
27	134.8	4.4	444	19	AAV11515	Recombinant MPO DN
28	116.4	3.8	387	19	AAV11512	Recombinant MPO DN
29	111	3.6	324	19	AAV11516	Recombinant MPO DN
30	74.8	2.4	393	19	AAV11510	Recombinant MPO DN
31	73	2.4	257	22	AAI25101	Probe #15034 for g
32	73	2.4	257	22	AAI50972	Probe #19658 used
33	72.4	2.4	5494	21	AAD00696	Human mitogenic re
34	71.8	2.3	325	21	AAF20919	Human eosinophil p
35	71.8	2.3	325	21	AAQ34797	Human adenosine re
36	70.6	2.3	237	19	AAV11521	Recombinant MPO DN
37	70	2.3	437	21	AAF20922	Human eosinophil p
38	70	2.3	437	21	AAQ34800	Human adenosine re
39	68.6	2.2	150	19	AAV11517	Recombinant MPO DN
40	68.2	2.2	389	22	AAI24688	Probe #14621 for g
41	68.2	2.2	389	22	AAI50019	Probe #18705 used
42	68.2	2.2	473	22	AAI15459	Probe #5392 for ge
43	68.2	2.2	473	22	AAI36820	Probe #5506 used t
44	68.2	2.2	482	21	AAF20918	Human eosinophil p
45	68.2	2.2	482	21	AAQ34796	Human adenosine re

ALIGNMENTS

RESULT 1
AAQ37493
ID AAQ37493 standard; DNA; 3072 BP.
XX AC AAQ37493;
XX 17-JUN-1993 (first entry)
XX Human TPO gene.
XX Disease associated B-cell epitope; human thyroid peroxidase;
KW diagnosis; immune diseases; Hashimoto's thyroiditis;
KW pRPO-BS; pRPO(M1)-BS; site-directed mutagenesis; mutation;
KW stop codon; EcoRI site; transmembrane region; ss.
XX Homo sapiens.
XX Key Location/Qualifiers
FT CDS 85..2886
FT FT /*tag= a
FT FT /label= TPO
FT FT misc_feature 2631
FT FT /*tag= b
FT FT /note= "base to be mutated (G -> A) to introduce stop codon and EcoRI site"
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FT FT /*tag= c
FT FT /note= "base to be mutated (C -> T) to introduce EcoRI site"
FT FT misc_feature 2635
FT FT /*tag= d
FT FT /note= "base to be mutated (T -> C) to introduce EcoRI site"
FT FT misc_feature 2642

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DB 1561 ggccatgccacgatcacccgctgtgagagggctggagcgcagcttccaggagcacc 1620
QY 1621 gacctgcccggctgtgctgcacagggctttcttcagcccattgacattactccgtga 1680
DB 1621 gacctgcccggctgtgctgcacagggctttcttcagcccattgacattactccgtga 1680
QY 1681 ggtgtgttgaccactaatcagagccttcttgaagaccagccaaactgcaggctcag 1740
DB 1681 ggtgtgttgaccactaatcagagccttcttgaagaccagccaaactgcaggctcag 1740
QY 1741 gatcagctgataacagagagctgacgaaaggcttttctgtctgtccaaattccagcacc 1800
DB 1741 gatcagctgataacagagagctgacgaaaggcttttctgtctgtccaaattccagcacc 1800
QY 1801 ttgatctggtctccatcaactcagagggcggcggagaccagggctgcaggttacaat 1860
DB 1801 ttgatctggtctccatcaactcagagggcggcggagaccagggctgcaggttacaat 1860
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DB 1921 atcgccagcagagcgtgcccagacaagatccctggacttgtacaagcatcctgacaacatc 1980
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DB 3061 aaaaaaaaaa 3072

RESULT 2
AAQ53061
ID AAQ53061 standard; mRNA; 3048 BP.
XX AAQ53061;
XX AC
XX AC
DT 02-JUN-1994 (first entry)
XX Human thyroid peroxidase.
DE Peroxidase; plasmid pHTPO-2.8; epitope fragment; disease diagnosis;
KW EC-1.11.1.7; ds.
XX Homo sapiens.
OS WO9323073-A.
PN 25-NOV-1993.
XX 22-APR-1993; 93WO-US03837.
PF 19-MAY-1992; 92US-0885656.
PR (UNMI) UNIV MICHIGAN.
XX Baker JR, Koenig RJ;
PI WPI; 1993-386217/48.
XX P-PSDB; AAR44615.
DR Isolated specific epitopic regions screening for thyroid
XX peroxidase auto antibody in sample - by using diagnostic reagent
PT for auto immune thyroid disease and for immuno therapy of thyroid
PT disease and thyroid cancer, for cellular immunity
XX Disclosure; Page 64-67; 99pp; English.
XX The epitope peptides encoded by the DNA may be used for
CC immunotherapy of thyroid disease (e.g. Hashimoto disease) and thyroid
CC cancer

SQ Sequence 3048 BP; 671 A; 930 C; 881 G; 566 T; 0 other;

Query Match 97.8%; Score 3004; DB 14; Length 3048;
Best Local Similarity 99.3%; Pred. No. 0;
Matches 3028; Conservative 0; Mismatches 15; Indels 5; Gaps 1;

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D 2521 accaaaggcgcttccagtctctcgtgcgcgacccctacaggttagagacgatggaga 2580
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D 2581 acctgctgactccggagggtccctcgggtgacttgcattccatccatgcgtgctgct 2640
QY 2653 ctgctgacggaggttcgcaggttcacactgcacgtgatttgcaggtgagacgcact 2712
D 2641 ctgctgacggaggttcgcaggttcacactgcacgtgatttgcaggtgagacgcact 2700
QY 2713 ggcactaaatccacactgccatctcgtgcgcgacggcgaggaactcccgagctgagatgc 2772
D 2701 ggcactaaatccacactgccatctcgtgcgcgacggcgaggaactcccgagctgagatgc 2760
QY 2773 ggaagaccagccgtgagggaactcaccagcggcgccgagctcaggactcggagcag 2832
D 2761 ggaagaccagccgtgagggaactcaccagcggcgccgagctcaggactcggagcag 2820
QY 2833 gagggtgctggatggaagccgggatactcagaggtcgcgagagccctctgaggcga 2892
D 2821 gagggtgctggatggaagccgggatactcagaggtcgcgagagccctctgaggcga 2880
QY 2893 agtggcaggacactgcagaacagcttcatgttcccaaaatcaactgcactctttcca 2952
D 2881 agtggcaggacactgcagaacagcttcatgttcccaaaatcaactgcactctttcca 2940
QY 2953 aacacaggcaaatcggaatcagcaggacactgttttcccaacacgggttaaatctagta 3012
D 2941 aacacaggcaaatcggaatcagcaggacactgttttcccaacacgggttaaatctagta 3000
QY 3013 ccatgtcgtagtactctcagcagatggatgaataaatgttatagctgc 3060
D 3001 ccatgtcgtagtactctcagcagatggatgaataaatgttatagctgc 3048
```

RESULT 3

AAQ90304
ID AAQ90304 standard; cDNA to mRNA; 3050 BP.
XX
AC AAQ90304;
XX

DT 23-OCT-1995 (first entry)

```
XX Human thyroid peroxidase gene.  
DE  
XX  
KW thyroid peroxidase gene; human; recombinant expression; reagent;  
KW antimicrobial antibody; detection; autoimmune thyroid disease;  
KW myasthenia gravis; ds.  
XX  
OS Homo sapiens.  
XX  
PH Key Location/Qualifiers  
FT CDS 73..2874  
FT /*tag= a  
XX  
XX EP655502-A.  
PN 31-MAY-1995.  
PD  
XX 05-SEP-1990; 90EP-0117445.  
PF  
XX 10-MAY-1990; 90JP-0118770.  
PR  
XX 05-SEP-1989; 89JP-0228334.  
XX  
XX (NTUS ) NIPPON SUISAN KAIISHA LTD.  
PA (NISR ) NISSUI PHARM CO LTD.  
XX  
XX Hata J, Kabeno S, Kato H, Matsumoto K, Yagihashi S;  
PI Yamashita S;  
XX  
XX WPI; 1995-195590/26.  
DR P-PSDB; AAR75689.  
XX  
XX Plasmid for the expression of human thyroid peroxidase - in a form  
XX secreted by Chinese hamster ovary cells.  
XX  
XX Disclosure; Page 18-21; 32pp; English.  
XX  
XX This nucleotide sequence encodes human thyroid peroxidase (hrPO) and  
XX is used in the formation of plasmid expression vectors suitable for  
XX production of the enzyme in a secretable form from chinese hamster  
XX ovary cells (CHO). The recombinant hrPO produced by the transformed CHO  
XX cells is useful as an assay reagent for the determination of  
XX antimicrobial antibody levels, esp. for diagnosis of autoimmune  
XX thyroid disease and possibly other diseases, eg. myasthenia gravis,  
XX etc..  
XX  
XX Sequence 3050 BP; 672 A; 931 C; 880 G; 566 T; 1 other;
```

Query Match 97.8%; Score 3003.4; DB 16; Length 3050;
Best Local Similarity 99.3%; Pred. No. 0;
Matches 3028; Conservative 0; Mismatches 16; Indels 5; Gaps 1;

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QY 18 catttcagaagagttacagccgtgaaattactcagcagcagtggtgctgagaagagga 77  
D 1 catttcagaagagttacagccgtgaaattactcagcagcagtggtgctgagaagagga 60  
QY 78 aaaa-----agaatgagagcgtgctgtgtctgtcactgctgttatgacctgcaca 132  
D 61 aaaaaggtcagaatgagagcgtgctgtgtctgtcactgctgttatgacctgcaca 120  
QY 133 gaagccttctcccttcactcagagagaggaagaaactccttggggaagcctgaggag 192  
D 121 gaagccttctcccttcactcagagagaggaagaaactccttggggaagcctgaggag 180  
QY 193 tctcgtctcttagcgtcttgagagaaagcaagccctggtgacacccctgtacgcc 252  
D 181 tctcgtctcttagcgtcttgagagaaagcaagccctggtgacacccctgtacgcc 240  
QY 253 acgatgcagagaaacctcaagaaagagaaatcccttctgagcctcagcttctgtttt 312  
D 241 acgatgcagagaaacctcaagaaagagaaatcccttctcagctcagcttctgtttt 300  
QY 313 tccaaactctctgagccaaagcgaggtgattgcccagcagcagagataatgaaaca 372
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QY 2533 accaaggcggtccagtgctctgctgagaccctacaggttagagacgagtgga 2592
|||||
Db 2521 accaaggcggtccagtgctctgctgagaccctacaggttagagacgagtgga 2580
|||||
QY 2593 acctgcgagacgtccgaggtccctcctggtgaggtctccatgctcgtgct 2652
Db 2581 acctgcgagacgtccgaggtccctcctggtgaggtctccatgctcgtgct 2640
|||||
QY 2653 ctgctatcgagagcttcagagcttcacgtcagaggtgattgagagacgact 2712
|||||
Db 2641 ctgctatcgagagcttcagagcttcacgtcagaggtgattgagagacgact 2700
|||||
QY 2713 ggcactaaatccacactgcccattctcgagacagggcgaggaactcccgagtgagatgc 2772
|||||
Db 2701 ggcactaaatccacactgcccattctcgagacagggcgaggaactcccgagtgagatgc 2760
|||||
QY 2773 ggaagcacagcccgtagggacactcacgcagcgggccgagctcagggactcgagcag 2832
Db 2761 ggaagcacagcccgtagggacactcacgcagcgggccgagctcagggactcgagcag 2820
|||||
QY 2833 gagagtgctggatgaaagccgggatactacaggtcgcgagagccctctgagggcaa 2892
Db 2821 gagagtgctggatgaaagccgggatactacaggtcgcgagagccctctgagggcaa 2880
|||||
QY 2893 agtggcagacactgcagaaacagcttcattgttcccaaaatcacctacgactctttcca 2952
Db 2881 agtggcagacactgcagaaacagcttcattgttcccaaaatcacctacgactctttcca 2940
|||||
QY 2953 aacacaggcaaatcggaaatcagcagagcactgttttcccaaacacgggttaaatctagta 3012
Db 2941 aacacaggcaaatcggaaatcagcagagcactgttttcccaaacacgggttaaatctagta 3000
|||||
QY 3013 ccatgctgtagttactctcagggatgagatgaaataaatgttatgctgca 3061
Db 3001 ccatgctgtagttactctcagggatgagatgaaataaatgttatgctgca 3049
|||||

RESULT 4

AAQ40728
ID AAQ40728 standard; DNA; 3045 BP.
AC AAQ40728;
XX
XX
DT 17-JUN-1993 (first entry)
XX
DE Human TPO gene lacking bases 2221-2247.
XX
KW Disease associated B-cell epitope; human thyroid peroxidase;
KW diagnosis; immune diseases; Hashimoto's thyroiditis;
KW mutant; mutation; ss.
XX
OS Synthetic.
FH Key
FT CDS
FT
FT Location/Qualifiers
FT 85..2859
FT /tag= a
FT /label= TPO
FT /note= "TPO lacking amino acids 713-721"
XX
XX W0303146-A.
XX
XX
PD 18-FEB-1993.
XX
XX 30-JUL-1992; 92WO-US06283.
XX
XX 30-JUL-1991; 91US-0738040.
XX
XX (RAPO/) RAPOPORT B.
XX
XX Rapoport B;
XX
XX WPI; 1993-076503/09.

DR P-PSDB; AAR35445.
XX Peptide comprising disease associated B-cell epitope(s) of human
PT thyroid peroxidase - used for diagnosis and treatment of immune
PT diseases e.g. Hashimoto's thyroiditis
XX
PS Disclosure; Page 100 + Fig 7; 131pp; English.
XX
CC A recombinant TPO wherein amino acids 713-721 have been deleted
CC or replaced is claimed. The recombinant TPO may be expressed
CC in non-thyroidal eukaryotic cells and, like native human TPO,
CC is enzymatically active, is expressed on the cell surface, and is
CC not a fusion protein.
XX
SQ Sequence 3045 BP; 682 A; 922 C; 885 G; 556 T; 0 other;

Query Match 97.6%; Score 2998.4; DB 14; Length 3045;
Best Local Similarity 98.9%; Pred. NO. 0;
Matches 3039; Conservative 0; Mismatches 6; Indels 27; Gaps 1;

QY 1 gagccaattgaggcgccatttcagaaagaggttacagccgtgaaaaattactcagcagtga 60
Db 1 gaggaattgaggcgccatttcagaaagaggttacagccgtgaaaaattactcagcagtga 60
|||||
QY 61 gttgctgagagaggaagaaagaaatgagcgtggtgctgtgctgtcgtcagcgtggt 120
Db 61 gttgctgagagaggaagaaagaaatgagcgtggtgctgtgctgtcgtcagcgtggt 120
|||||
QY 121 atgacctgcacagaagccttctcccttcattctcgagaggaagaaacactctttgggga 180
Db 121 atgacctgcacagaagccttctcccttcattctcgagaggaagaaacactctttgggga 180
|||||
QY 181 aagcctgaggagtgctgtctctagcgtcttggaggaaagcaagcgtggtgagacc 240
Db 181 aagcctgaggagtgctgtctctagcgtcttggaggaaagcaagcgtggtgagacc 240
|||||
QY 241 gccatgacgacagatgcagaaacactcaagaaacactcaagaaaggaatcttctgagctcag 300
Db 241 gccatgacgacagatgcagaaacactcaagaaacactcaagaaaggaatcttctgagctcag 300
|||||
QY 301 ctctgtctttttccaaactcctgagcacaacagcgagtgatgcccgcagcagcagag 360
Db 301 gttctgtctttttccaaactcctgagcacaacagcgagtgatgcccgcagcagcagag 360
|||||
QY 361 ataaggaaacatcaatacagcagatgaaaagaaagtcacactgaaaactcaacaatca 420
Db 361 ataaggaaacatcaatacagcagatgaaaagaaagtcacactgaaaactcaacaatca 420
|||||
QY 421 cagcatccaaacgagtgctttatcagaagatctgctgagcattcattgcaaaatgcttggga 480
Db 421 cagcatccaaacgagtgctttatcagaagatctgctgagcattcattgcaaaatgcttggga 480
|||||
QY 481 tgtctccttacatgctgcccccaaaatgccaaacacttgctgagcacaataacacag 540
Db 481 tgtctccttacatgctgcccccaaaatgccaaacacttgctgagcacaataacacag 540
|||||
QY 541 cccatcacagaggttgcaacaacagagaccacccagatggggcgctcccaacacggcc 600
Db 541 cccatcacagaggttgcaacaacagagaccacccagatggggcgctcccaacacggcc 600
|||||
QY 601 ctggcagcagtggtccctccagttctatgagacggttcagtcagcccccgaggtggaac 660
Db 601 ctggcagcagtggtccctccagttctatgagacggttcagtcagcccccgaggtggaac 660
|||||
QY 661 ccggctctctgtacaacgggttccctcactgccccgggtcccgagggtgacaagacatgctc 720
Db 661 ccggctctctgtacaacgggttccctcactgccccgggtcccgagggtgacaagacatgctc 720
|||||
QY 721 attcaagtttcaaatgaggtgtgtcacagatgatgaccgctattctgacctctgatggca 780
Db 721 attcaagtttcaaatgaggtgtgtcacagatgatgaccgctattctgacctctgatggca 780
|||||

QY 781 tggggacaatacaatgacacaagacatcgcttcacacacacagagacaccaaagctgccc 840
Db 781 tggggacaatacaatgacacaagacatcgcttcacacacacagagacaccaaagctgccc 840
QY 841 ttccggggaggggtctgactgcccagatgactgtgagaaacaaacccatgtttcccata 900
Db 841 ttccggggaggggtctgactgcccagatgactgtgagaaacaaacccatgtttcccata 900
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Db 901 caactcccggagagagcccgccggccggccggccagccctgtctgaccttctaccgctct 960
QY 961 tcggccgctgcccagccggggaccaggccgctcttggaaacctgttccagggccaac 1020
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QY 1021 ccgagcgacagatgaacgggttgacctgttccctgagcgtccacccgtgtatggcagc 1080
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QY 1441 tacatcccaggtacctgggaccccgagcctccagcagtcagtggtgctccctatgaaggc 1500
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QY 1501 tatgactccaccgccaaccccaactgtgtccaaagtttctccacagcgcttccgcttc 1560
Db 1501 tatgactccaccgccaaccccaactgtgtccaaagtttctccacagcgcttccgcttc 1560
QY 1561 ggcattgcaacgatcaaccgctggtagagagctggagcccaagcttccagggaaccccc 1620
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QY 1621 gacctgccgggctgtggtgtgcccagcgttcttccagcccatggacattactccgtgga 1680
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QY 1681 ggtggtttgaccaccaactaatcacgagccttctgcaagacagcccaactgcaggtgcag 1740
Db 1681 ggtggtttgaccaccaactaatcacgagccttctgcaagacagcccaactgcaggtgcag 1740
QY 1741 gatcagctgatgaacgagggagctgaocggaaagccttctgtctgtccaatccagcacc 1800
Db 1741 gatcagctgatgaacgagggagctgaocggaaagccttctgtctgtccaatccagcacc 1800
QY 1801 ttggatctggctccatcaacctgcagagggccgggacacacgggctgcccaggttacaat 1860
Db 1801 ttggatctggctccatcaacctgcagagggccgggacacacgggctgcccaggttacaat 1860
QY 1861 gagtggaggggagtctgcgggcctgctcgctggagagcccccgctgacctgagcacagcc 1920

Db 1861 gagtggaggagggttctcgccgtgctcgctggagacccccgctgacctgagcacagcc 1920
QY 1921 atcgccagcagagagcgtggccgacaaagatccctggactgttacaagcatcctgacaacatc 1980
Db 1921 atcgccagcagagagcgtggccgacaaagatccctggactgttacaagcatcctgacaacatc 1980
QY 1981 gatgtctggctgggaggcttagctgaaaacttctcccagggctcgagacagggcccctg 2040
Db 1981 gatgtctggctgggaggcttagctgaaaactcctcccagggctcgagacagggcccctg 2040
QY 2041 ttgctctgtctcatgtggaaagcagatgaaggctctgcgggacgggtgactggttttgggtg 2100
Db 2041 ttgctctgtctcatgtggaaagcagatgaaggctctgcgggacgggtgactggttttgggtg 2100
QY 2101 gagaacagccagctctcacggatcacagagcgtgactgagagaagcacctccctgtct 2160
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QY 2281 agggaaaactcttccccaagacacagtgcttcccagagagcgtgagaaatggggac 2340
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QY 2341 ttgtgcaactgtgaggagctgtggggggcgctgctgggtgtattcttcccgccaggggtat 2400
Db 2341 ttgtgcaactgtgaggagctgtggggggcgctgctgggtgtattcttcccgccaggggtat 2400
QY 2401 gacttccaaggccgggagcagctcacttgcacccaggaaggatgggatttccagcctccc 2460
Db 2374 gacttccaaggccgggagcagctcacttgcacccaggaaggatgggatttccagcctccc 2433
QY 2461 ctctgcaagatgtgaacgagtgtagacagcgtgcccacccccctgcccagcctctggc 2520
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QY 2521 aggtgcagaacacacaaaggcgcttccagtgctctgcgggacccctacagattagga 2580
Db 2494 aggtgcagaacacacaaaggcgcttccagtgctctgcgggacccctacagattagga 2553
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QY 2641 tcgctggctgctctgctgactcgaggagcttccaggtctcacctgcagcgtgatttgcagg 2700
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Db 2674 tggacacacactggcactaaaatccacactgcccattctcgagacagcgcgaggaactccc 2733
QY 2761 gactgagatcgggaaaagcaccaggccgtagggagcctcaccagcgcgggcccgagctcag 2820
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QY 2821 gactcgagcgaggagagtgctgggagtgaagggccgggatactcacaggtcgccgagagcc 2880
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QY 2881 ctctgagggcgaagtggcagagcactgcagaacagcttcatgttccccaaaaatcacccgtac 2940
Db 2854 ctctgagggcgaagtggcagagcactgcagaacagcttcatgttccccaaaaatcacccgtac 2913
QY 2941 gactcttttccaaaacacagggcaaatcggaatcagcagcagcactgttttccccaacaggg 3000


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Db 2914 gactctttccaaacagaggcaaatcgaaatcgaaatcgagcagcagactgttttcccccaacagg 2973
QY 3001 gtaaatctagtaccatctcgtagtctactctcagcgcagtgatggaataatgttatagctgc 3060
Db 2974 gtaaatctagtaccatctcgtagtctactctcagcgcagtgatggaataatgttatagctgc 3033
QY 3061 aaaaaaiaaaaa 3072
Db 3034 aaaaaaiaaaaa 3045

RESULT 5
AAV32403
ID AAV32403 standard; cDNA; 2847 BP.
XX
AC AAV32403;
DT 25-SEP-1998 (first entry)
DE Thyroid peroxidase gene.
XX
KW ds; human; thyroid peroxidase; autoantibody; autoimmune thyroid disease;
KW Grave's disease; Hashimoto's thyroiditis.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT CDS 1..2847
FT /tag= a
FT /product= "Thyroid peroxidase"
FT /note= "No start codon given"
XX
PN WO9820354-A2.
XX
PD 14-MAY-1998.
XX
PF 03-NOV-1997; 97WO-GB03014.
XX
PR 01-NOV-1996; 96GB-0022772.
XX
PA (RSRR-) RSR LTD.
XX
PI Furmaniak J, Grennan Jones F, Rees Smith B;
XX
DR WPI; 1998-287128/25.
DR P-PSDB; AAW48781.
XX
XX Monitoring reactivity of thyroid peroxidase auto-antibodies - is
PT used to diagnose auto-immune thyroid diseases, or other auto-immune
PT diseases
XX
PS Disclosure; Fig 2; 34pp; English.
XX
CC The thyroid peroxidase (TPO) gene was mutated, to contain truncations or
CC deletions, to express modified TPO. The modified TPO was labelled to
CC monitor the reactivity of TPO autoantibodies (AAB) against TPO AAB in
CC body fluid from a patient. The method can be used to diagnose autoimmune
CC thyroid disease (ATPD), especially Grave's disease or Hashimoto's
CC thyroiditis, or other autoimmune diseases.
XX
SQ Sequence 2847 BP; 610 A; 885 C; 832 G; 520 T; 0 other;

Query Match 91.2%; Score 2801.4; DB 19; Length 2847;
Best Local Similarity 99.3%; Pred. No. 0;
Matches 2826; Conservative 0; Mismatches 16; Indels 5; Gaps 1;

QY 45 attactcagcagtcagtggttgctgagagagagaaaaa-----agaatgagagcgtgagct 99
Db 1 attactcagcagtcagtggttgctgagagagagaaaaaaggtcagaatgagagcgtgagct 60
QY 100 gtgctgtctcagcgtggttatggctgcacagaagccttctcccttcattctcagaga 159
|||||
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Db 61 gtgctgtctgtcacgctggtttatggcctgcacagaagccttcttccccctcatctcagaga 120
QY 160 gggaaagaactccttttgggaaagcctgagaggtctcgtgtctctagcgtcttggaggaa 219
Db 121 gggaaagaactccttttgggaaagcctgagaggtctcgtgtctctagcgtcttggaggaa 180
QY 220 agcaagcgcttggtggacaccgccatgtacgccacgatgcagagaaacctcaagaaaaa 279
Db 181 agcaagcgcttggtggacaccgccatgtacgccacgatgcagagaaacctcaagaaaaa 240
QY 280 ggaatccttttggagctcagcttctgtcttttccaaacttctgagccaacaacgagga 339
Db 241 ggaatccttttccagctcagcttctgtcttttccaaacttctgagccaacaacgagga 300
QY 340 gtgattgccagcagcagagataatgaaacatcaatacaacgagcagatgaaagaaagtc 399
Db 301 gtgattgccagcagcagagataatgaaacatcaatacaacgagcagatgaaagaaagtc 360
QY 400 aacctgaaactcaacaatcacagcatccaacggatgctttatcagaagaatctgtgagc 459
Db 361 aacctgaaactcaacaatcacagcatccaacggatgctttatcagaagaatctgtgagc 420
QY 460 atcattgcaaacatgtctggatgtctccttacatgtcgtcccccaaaaatgcacaacact 519
Db 421 atcattgcaaacatgtctggatgtctccttacatgtcgtcccccaaaaatgcacaacact 480
QY 520 tgcctggcgaacaaatacacagcccatcacagagagcttgcaacaacagacacacccaga 579
Db 481 tgcctggcgaacaaatacacagcccatcacagagagcttgcaacaacagacacacccaga 540
QY 580 tggggcgctcccaacacgcgcctggcacgatggtccctccctcagctctatgagcagcctc 639
Db 541 tggggcgctcccaacacgcgcctggcacgatggtccctccctcagctctatgagcagcctc 600
QY 640 agtcagccccgaggtggaacccccggtctctgttacaacgggttcccaactgcccccggtc 699
Db 601 agtcagccccgaggtggaacccccggtctctgttacaacgggttcccaactgcccccggtc 660
QY 700 cggagagtgacaagacatgtcattcaagtttcaaatgaggtgttcacagatgatgacgc 759
Db 661 cggagagtgacaagacatgtcattcaagtttcaaatgaggtgttcacagatgatgacgc 720
QY 760 tattctgacctctctgatggcatggggaacaaatacatcaccacgacatcgctttcacacca 819
Db 721 tattctgacctctctgatggcatggggaacaaatacatcaccacgacatcgctttcacacca 780
QY 820 cagagcacacagcaaatgctcttcggggaggggtgtgactgccagatgacttgtgagaac 879
Db 781 cagagcacacagcaaatgctcttcggggaggggtgactgccagatgacttgtgagaac 840
QY 880 caaaacccatgttttccatacaactcccgagaggagggcccgccgagggcgagccgcgc 939
Db 841 caaaacccatgttttccatacaactcccgagaggagggcccgccgagggcgagccgcgc 900
QY 940 tgtctgcctctacgcctcttcgcgcgctgcgcacccgagccgagcccaagcgctcttt 999
Db 901 tgtctgcctctacgcctcttcgcgcgctgcgcacccgagccgagcccaagcgctcttt 960
QY 1000 gggaaacctgtccagcgccaaacccgagggcagcagatgaaagggttgacctcgttccctggac 1059
Db 961 gggaaacctgtccagcgccaaacccgagcagcagatgaaagggttgacctcgttccctggac 1020
QY 1060 gcgtccacccgtgtatggcagctccccggtcccttagagagcagctcggaactggaccagt 1119
Db 1021 gcgtccacccgtgtatggcagctccccggtcccttagagagcagctcggaactggaccagt 1080
QY 1120 gccgaagggtgtcctcgctccagcgccctcccgagctcccgagctcccgccctaccctgcc 1179
Db 1081 gccgaagggtgtcctcgctccagcgccctcccgagctcccgagctcccgccctaccctgcc 1140
QY 1180 ttcgtgcgcacacgcgcctcgtcgccctgtgcgcgcgagcccgagcccgagagagacc 1239
Db 1141 ttcgtgcgcacacgcgcctcgtcgccctgtgcgcgcgagcccgagcccgagagagacc 1200
```

Qy	1240	cgcgggcccctgttccctgagccagagacagggcgcgcgcacgagcgccagcgaggttccctccctgacggca	1239
Db	1201	cgcgggcccctgtctctggccggagacggcgcgcgcacgaggttccctccctgacggca	1260
Qy	1300	ctgcacacgctgtggctgcgcgcagacacacccctggccgcgcctcaagggccctcaat	1359
Db	1261	ctgcacacgctgtggctgcgcgcagacacacccctggccgcgcctcaagggccctcaat	1320
Qy	1360	gcgactggagcgcggaccccgctgaccagagcgcgcaaggctcgctggcgctctgcac	1419
Db	1321	gcgactggagcgcggaccccgctgaccagagcgcgcaaggctcgctggcgctctgcac	1380
Qy	1420	caqatcacctcaaggatcacatcccaggatctctggacccgagggcttccacag	1479
Db	1381	caqatcacctcaaggatcacatcccaggatctctggacccgagggcttccacag	1440
Qy	1480	tacgtgggtccctatgaagctatgactccaccgcccacccactgtgtccacgtgttc	1539
Db	1441	tacgtgggtccctatgaagctatgactccaccgcccacccactgtgtccacgtgttc	1500
Qy	1540	tccacagcgccttcgcgttcggccatgccacgtatccaccgcgtggtgaggaaggctggac	1599
Db	1501	tccacagcgccttcgcgttcggccatgccacgtatccaccgcgtggtgaggaaggctggac	1560
Qy	1600	gccagcttccaggagcaccccgactgccaggctgtgctgtgcacaggcttcttcagc	1659
Db	1561	gccagcttccaggagcaccccgactgccaggctgtgctgtgcacaggcttcttcagc	1620
Qy	1660	ccatggacattactccgtggagtggtttggaccacataacagaggccctcttgcgaaga	1719
Db	1621	ccatggacattactccgtggagtggtttggaccacataacagaggccctcttgcgaaga	1680
Qy	1720	ccagccaaactcgaggtgcaggatcagctgatgaacgaggagctgcgcgaaaaggctcttt	1779
Db	1681	ccagccaaactcgaggtgcaggatcagctgatgaacgaggagctgcgcgaaaaggctcttt	1740
Qy	1780	gtctgtcaattccagacaccttgatctgcgcgtccatccaactgcagagggcccgagc	1839
Db	1741	gtctgtcaattccagacaccttgatctgcgcgtccatccaactgcagagggcccgagc	1800
Qy	1840	cacggctgcacagttcacatgagtgaggaggttcttcgcccctgcctgcctctggagacc	1899
Db	1801	cacggctgcacagttcacatgagtgaggaggttcttcgcccctgcctgcctctggagacc	1860
Qy	1900	cccgcgtgacctgagcagcaccatgcgcgcgagggagctggtccgacaagatctctggacttg	1959
Db	1861	cccgcgtgacctgagcagcaccatgcgcgcgagggagctggtccgacaagatctctggacttg	1920
Qy	1960	tacaagatcttgcacaacatgatcttgctgggagcttagctgaaaacttctctccc	2019
Db	1921	tacaagatcttgcacaacatgatcttgctgggagcttagctgaaaacttctctccc	1980
Qy	2020	agggctcggacagggcccccgtttgcctgtctcatgtggaagcagatgaaggctctgcgg	2079
Db	1981	agggctcggacagggcccccgtttgcctgtctcatgtggaagcagatgaaggctctgcgg	2040
Qy	2080	gacgggtgactggttttggtggaagacacacgtctctccacggatgcacagagggctgag	2139
Db	2041	gaggttgactggttttggtggaagacacacgtctctccacggatgcacagagggctgag	2100
Qy	2140	ctggagaagcactcccctctcggtgtatctgtacacactgacctccacaggggtgcc	2199
Db	2101	ctggagaagcactcccctctcggtgtatctgtacacactgacctccacaggggtgcc	2160
Qy	2200	atggatgcttccaagtcggcgaattcccgaagactttgagtctgtgacagcatcaact	2259
Db	2161	atggatgcttccaagtcggcgaattcccgaagactttgagtctgtgacagcatcaact	2220
Qy	2260	ggcatgaactggagggcttggaggaaaccttctcgaagacgacaagtgtggtctccca	2319
Db	2221	ggcatgaactggagggcttggaggaaaccttctcgaagacgacaagtgtggtctccca	2280

Qy	2320	gagagcgtgagaataagggaactttgtgcaactgtgagagagtcgtgctggtg	2379
Db	2281	gagacatggagaaatggggacatttgtgcaactgtgagagatctgggagcgctgctggtg	2340
Qy	2380	tattctgcgcgcacgggtatgagctccaagccgcggagacagctcaactgcaacccaggaa	2439
Db	2341	tattctgcgcgcacgggtatgagctccaagccgcggagacagctcaactgcaacccaggaa	2400
Qy	2440	ggatgggatttcacgctccccctctgcaaaagatgtgaaacagtgtagaacggtgtagacggtgccac	2499
Db	2401	ggatgggatttcacgctccccctctgcaaaagatgtgaaacagtgtagaacggtgtagacggtgccac	2460
Qy	2500	ccccctgccacgcctctcgcgagggtgcagaacacacaaaggcggtctccagtgctctgc	2559
Db	2461	ccccctgccacgcctctcgcgagggtgcagaacacacaaaggcggtctccagtgctctgc	2520
Qy	2560	gcggaccctacaggttagagacacatgagagaacctgcgtagacacccggagagctcccc	2619
Db	2521	gcggaccctacaggttagagacacatgagagaacctgcgtagacacccggagagctcccc	2580
Qy	2620	cgggtgacttgatctccatgtcgcgtggctgctctgctgctgagcgaggttcgcaggtctc	2679
Db	2581	cgggcgacttgatctccatgtcgcgtggctgctctgctgagcgaggttcgcaggtctc	2640
Qy	2680	acctcgaacggtgatttcgaggtggaacacgcactggcaactaaatccacactgccatctcg	2739
Db	2641	acctcgaacggtgatttcgaggtggaacacgcactggcaactaaatccacactgccatctcg	2700
Qy	2740	gagacagcggaggaactcccagctgagatcggaagcaccacacccagccgtagggaacctca	2799
Db	2701	gagacagcggaggaactcccagctgagatcggaagcaccacacccagccgtagggaacctca	2760
Qy	2800	ccgcagcggccgcagctcaggaactcgagcgagcgagagtgctgggagtggaagccgggat	2859
Db	2761	ccgcagcggccgcagctcaggaactcgagcgagcgagagtgctgggagtggaagccgggat	2820
Qy	2860	actcacaggctccgagagccctctga	2886
Db	2821	actcacaggctccgagagccctctga	2847
RESULT 6			
AAx37301			
ID	AAx37301 standard; DNA; 2546 BP.		
XX			
AC	AAx37301;		
XX			
DT	02-JUL-1999 (first entry)		
XX			
DE	Human thyroid peroxidase hTPO DNA.		
XX			
KW	Thyroid peroxidase; hTPO; antigen; antibody; anti-human; diagnosis;		
KW	thyroid disease; severe myasthenia; lupoid hepatitis;		
KW	insulin dependent pediatric diabetes; ss.		
XX			
OS	Homo sapiens.		
XX			
FN	JP11094833-A.		
XX			
PD	09-APR-1999.		
XX			
PF	19-SEP-1997; 97JP-0273743.		
XX			
PR	19-SEP-1997; 97JP-0273743.		
XX			
PA	(SRLS-) SRL KK.		
XX			
DR	WPI; 1999-291616/25.		
DR	P-PSDB; AAY07733.		
XX			
PT	New antigen for immunological determination of anti-human thyroid		
XX	peroxidase antibody - and recombinant human thyroid peroxidase		

Claim 3; Fig 1; 29pp; French.

The present sequence represents an expression cassette of a human eosinophil peroxidase (EPO). The sequence is derived from a BamHI-HindIII fragment. The specification describes the production of human EPO fragments by genetic engineering. The sequence was obtained from total RNA isolated from human blood. The EPO protein is from the family of oxido-reductases. The molecular mass of the protein is about 71 kDa. The human EPO can be used in large scale industrial applications, especially for the research of new medicaments, e.g. the toxic effects of natural eosinophil peroxidase on the tissues of the respiratory system could be diminished or modulated by using a medicament directly acting on the EPO. Antibodies against the EPO protein can be used for immunodetection of the protein.

Sequence 2272 BP: 461 A; 732 C; 627 G; 452 T; 0 other;

Query Match	15.1%	Score 464.2	DB 21	Length 2272
Local Similarity	56.0%	Pred. No. 7e-92		
Matches	986	Conservative 0	Mismatches 733	Indels 42
Gaps				
530	acaataacagcccatcacaggagcttgcaacacacagagacacccacagatggcgccct	589		
452	acaagtaccgcacatcaatcggcagctgcaacacaaagagagaccttgcctaggcgccct	511		
590	ccaacacgcccctggcacgatggctccctccagctctatgagacgggttcagtcagcccc	649		
512	ccaacaggctcgtgcgctggctgccgcgagtatgaggtggctgcgtccct	571		
650	gagctggaaccccgggtctctgtacacaggggttcccactgcctccggctccgggaggtga	709		
572	tcgggtgacccccagcaggagcgcaatggctctctctctctctctctctcggctctct	631		
710	caagacatgtcattcaagtttcaaatgaggtgtgtcacagatgatgacgctattctgacc	769		
632	ccaaccaagatgtgcgtctcccaatgagagactgacctcgcgacgctggcccgagccctca	691		
770	tcctgatggcatggggacaatacatcgacacagacatcgcgttcacacacacagagacca	829		
692	tgctcatgagtgggccagttctatgacatgacctggaactctcccggagctcccgcg	751		
830	gcaaaagctccttcggggagggtctgacctccagatgacctgtgagaaacaaacccat	889		
752	ccagagtggtcctcactgcaggcgttgactgtgagagacctggcccagctgcctccct	811		
890	gtttcccatcaaaactcccggaggagggccgcgcgcggcagcctgtctgtgcct	949		
812	gtttcccatcaagtccc-----acccaatgaccccgcatcaagaacacagctgactg	866		
950	tctacgctcttcggcgcctgcgcgcacccgggacaaaggcgcctctttgggaacctgt	1009		
867	catcccttcttcgc-----tcggacacctcatgcccccaaa	904		
1010	ccacggccaaacccgagcagcagatgaacgggtgacctcgttcttgagcgcgtccacgc	1069		
905	acaagaacagagtcgcgaacacagatcaacgcctcactctctttgtggagccagcatgg	964		
1070	tgatggcagctccccggcctcctagagagcagctgcgaaactgcacagtcgcgaaggcc	1129		
965	tgatggcagtgaggtctcctcgtcgtcgcgcgcaacccgacaaactaacctggggc	1024		
1130	tgctccgcgtccacgcgcgcctccgggaactccggcgcgcgcctaacctgccttctgcgc	1189		
1025	tgctggccatcaacacgctttcaagacaaacgcggcggcctcgtgcctctgcacacc	1084		
1190	cacgcgcgcctgcggcctgtgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc	1249		
1085	tgacga-----tgacctctgtcctcaacacgcctcgcgcgcatccct	1132		
1250	gcttcttgccggagacggccgc	1309		
1133	gcttcttgccagtgacacccgatcaacgaaaccccaacacacacacacacacacacacacac	1192		


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QY 1550 ccttcgcttcgcccacgacgacacccgctggtgagagagctggagacccagcttcc 1609
Db 1370 ctttcgcttggccacacacgaccccttcacgcttccttcgcttggagcagtgatcc 1429
QY 1610 agagaccccgacgctccggtgctggtgacacgaggtttcttcagcccatggacat 1669
Db 1430 gggctccgaccccaactcgcgtgcccacttagctctgcttcttcgagctggcgga 1489
QY 1670 tactccctggaggtggttgaccacactaatcagcaggcctcttcgcaagaccagccaaac 1729
Db 1490 tcgtgatgaagggtgcaccccatctccggcctcatgcccacctgacccctcccaagc 1549
QY 1730 tgcaggtgcaggatcagctgatgaacgagagctgacggaagagctctttgtgtgtcca 1789
Db 1550 tgaacctcagatgccattgtagtgatgagctcggcggacggcgtgttcggcaagfga 1609
QY 1790 attcagacacttgatctggcttccatcaactgacagggggcggcggacacagggctgc 1849
Db 1610 ggaagattggctggacgtgacgtctcaactgacacgaagcgggacacggccttc 1669
QY 1850 caggttacaatgagtgagggaggtctgcggcctgcctgcctggagaccccgctgacc 1909
Db 1670 caggttacaatgcttgagggcgtctctgtggctctccagcccggaattggcacagc 1729
QY 1910 tgagcacagccatccgacgagcgtggccgacagatcctggaactgttacaagcatc 1969
Db 1730 ttgacgggtgctgaaacacgagacttggcaaggaagttcctgaattgtatgaacac 1789
QY 1970 ctgacacacatgctgctgctggaggttagctgtaaaactctctccacagggctcgga 2029
Db 1790 ctgacacacatgacatggtggtggccatcgtgagcctctttgcccggggtcgag 1849
QY 2030 caggccctctgtgctctcattgggaagcagatgaagcctctcgggacggtgaact 2089
Db 1850 tggggcctctctggtctctgctgtctgctgagaccag-ttcgagagacggagagagaca 1908
QY 2090 ggtttgtgggaacacgacgctcttcacggatgacagagcgtgagctgagagaagc 2149
Db 1909 ggtctggtgacagacgaggtgtttacc--aaagacgacgaagccctgagacgaa 1966
QY 2150 actcctctctgggttatctgtgacacactggcctcaccaggggtgcccatgacgtc 2209
Db 1967 ttctctgtctgaattatgtgacataccggtatcacacgggtttcgaaggacatct 2026
QY 2210 tccaagtgcgcaaatcccgagacattgagctctgtgacagcatcacctggcatgaac 2269
Db 2027 tcagagcaacatctaccctcggggtctgtgaaactgcagcgtatcccccaggttgacc 2086
QY 2270 tggaggcctggaggaacacct 2290
Db 2087 tatcagcctggcagggacat 2107

RESULT 11
AAA34801
ID AAA34801 standard; DNA: 2558 BP.
XX
AC AAA34801;
XX
XX 28-JUL-2000 (first entry)
XX
XX Human adenosine receptor related polynucleotide SEQ ID NO:2490.
XX
XX Human; adenosine receptor; low adenosine antisense oligonucleotide;
KW phosphorothioate; impaired respiration; inflammation; allergy;
KW allergic disease; bronchoconstriction; inhibitor; antiinflammatory;
KW antiallergic; antialsthmatic; cytosstatic; analgesic; impaired airway;
KW lung disease; ischaemic condition; pulmonary vasoconstriction; asthma;
KW respiratory distress syndrome; pain; cystic fibrosis; emphysema;
KW pulmonary hypertension; chronic obstructive pulmonary disease; COPD;
KW cancer; leukaemia; lymphoma; carcinoma; metastasis; ss.
XX
OS Homo sapiens.
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XX WO200009525-A2.
XX 24-FEB-2000.
XX
XX 03-AUG-1999; 99WO-US17712.
XX
XX 03-AUG-1998; 98US-0095212.
XX
XX (UYEC-) UNIV EAST CAROLINA.
XX
XX Nyce JW;
XX
XX WPI; 2000-205971/18.
XX
XX New antisense oligonucleotides useful for treating e.g. pulmonary
XX vasoconstriction, inflammation, allergies, asthma, hypertension,
XX bronchitis, emphysema, respiratory distress syndrome, ischemia or
XX cancers -
XX
XX Disclosure; Page 647-648; 1343pp; English.
XX
XX The present invention describes a new composition comprising an
XX antisense oligonucleotide (ON) with low adenosine (up to 15%), which
XX targets nucleic acids involved in bronchoconstriction, allergies, and/or
XX inflammation. The ON can have antiinflammatory, antiallergic,
XX antiasthmatic, cytostatic and analgesic activities. The compositions are
XX useful for the treatment of diseases associated with inflammation,
XX impaired airways, including lung disease and diseases whose secondary
XX effects afflict the lungs of a subject. They can be used for treating
XX e.g. ischaemic conditions, pulmonary vasoconstriction, allergies,
XX asthma, impeded respiration, respiratory distress syndrome, pain, cystic
XX fibrosis, pulmonary hypertension, emphysema, chronic obstructive
XX pulmonary disease (COPD), and cancers such as leukemias, lymphomas,
XX carcinomas, and cancers which may metastasize to the lungs, including
XX the breast and prostate cancer. The reduction of the adenosine content of
XX the ONs reduces side effects. The A-containing ONs break down with the
XX release of deoxyadenosine which activates adenosine receptors causing
XX bronchoconstriction and inflammation. AAA32313 to AAA35312 represent the
XX nucleotide sequences given in the sequence listing from the present
XX invention, which correspond to SEQ ID NO:1 to 2815, and then the last
XX 185 sequences are also called SEQ ID NO:1 to 185, but the sequences
XX differ from the previously named sequences. SEQ ID NO:11 to 1680
XX (AAA32323 to AAA33992) are specifically claimed ONs from the present
XX invention. N.B. Sequences given in the disclosure of the present
XX invention do not match up with their corresponding SEQ ID NO: sequences
XX given in the sequence listing.
XX
XX Sequence 2558 BP; 527 A; 820 C; 698 G; 513 T; 0 other;
```

Query Match 14.3%; Score 438.2; DB 21; Length 2558;
Best Local Similarity 55.8%; Pred. No. 3.4e-86;
Matches 983; Conservative 0; Mismatches 733; Indels 45; Gaps 6;

```
QY 530 acaatacagggcccatcacagagcttgcaacaacagagaccacccacagatgggcgctc 589
Db 392 caagatccgcacccatcactggacgggtgcaacaacagagggagaccccttgcaggggct 451
QY 590 ccaacacggccctggcagcagtggtccctccagtcctatgagacggttcagtcagcagccc 649
Db 452 ccaaccaggtctggctgctggcgtgcccgcgcagatgagatgggtgctgcgtccctc 511
QY 650 gagcttggaaccccggtctcttctgtacaacgggttcccaactgcccccggtccggagggtga 709
Db 512 tcggttgacccccagcaggagcgcaatggcttctctctctctctctcttctgctgctgtct 571
QY 710 caagacatgctattcaaatgaggttggttcacagatgatgacgctattctgacc 769
Db 572 ccaaccagatgtgcgtctcccaatgagagactgacctccagcgggtggccagccctca 631
QY 770 tcttgatggatggggacaatacatcgcaccacgacatcgcttcacaccacagagaccaca 829
```

Db 632 tgttcacgtgagtgggccagcttcattgacccatgacctgaccttctccccggagtcctcccg 691
Qy 830 gcaagctgcttcggggggggtctgactgcccagatgacttgtagaaccacaaacccat 889
Db 692 ccagatggccttcactgcagcgttgacttgagagacctgcgccagctgccccct 751
Qy 890 gtttccatacactcccgagagcccgccgcccggccggccgagcccgctgtgtccct 949
Db 752 gcttcccatcaagatccc-----accacatgacccccgcacatcaagaacacgcgtgact 806
Qy 950 tctaccgctcttcggccgctgcggcaccggggaacaaaggccgctcttttgggaacctgt 1009
Db 807 catcccttcttcgcctcg-----gcacctcatgcccccaaa 844
Qy 1010 ccacggccaaaccgagcgacagatgaacgggttgacctgttctctggaacgcgtccacgc 1069
Db 845 acaagaacagagtcgcgaacacagataacgcgtcacctcttctgtgagccgcaagatgg 904
Qy 1070 tgtatggcagctcccgccctgactagagaggcagctgcggaactgacacagtgccgaagggc 1129
Db 905 tgtatggcagtgaggtctccctctcgtcggtccgcgaacccgacacactacactggggc 964
Qy 1130 tgcctccgctccacggccgctccggacctccggccgctccgctaccctgctcccttgcgcg 1189
Db 965 tctcggccataccacagcgtttcaagacacagccggccgctgctgctcccttcgacaccc 1024
Qy 1190 cagcgcgcctgcggcctgtgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc 1249
Db 1025 tgcaaga-----tgacctctctctcaccacccgctcgccgcgacccct 1072
Qy 1250 gcttctcggcggagagcgccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc 1309
Db 1073 gcttctcggcaggtgacacccgatcaacggaaaccccccaactggcagccatgcacaccc 1132
Qy 1310 tgtgcctgcgcagacacacccgctgcccgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc 1369
Db 1133 tctttagcagagacaaacccgctgcccacgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc 1192
Qy 1370 gcgcgcgcgcgcgttacagagagcgcgcaaggtcgtggcgctctgcacacgatcatca 1429
Db 1193 atggagacaaactgacaaatgagcctcggaagatcaatggggccatggtccagatcatca 1252
Qy 1430 ccctgagggattacatcccccaggtatctgggaccccgagccttcctccagcagtcagtggtc 1489
Db 1253 cctaccgagactttctgcccctgttctggcgaagcccgccgaggaacccctgggc 1312
Qy 1490 cctatgaagcctatgactcaaccccaacccactgtgtccaaagtgcttctccacagccg 1549
Db 1313 actacagggggtactgtctccaatgagaccacacgggtggccaatg---tcttccacctgg 1369
Qy 1550 ctttccgcttcggccatgccacgatccacccgctggtagaggagcgtgagccacagcttc 1609
Db 1370 ctttccgcttggccacaaatgctccagccctcatgttcgcttgagacagtcagtacc 1429
Qy 1610 aggagacccccgcacgtcccggtggtggtgacccaggttttcttcagcccatggacat 1669
Db 1430 gggcctcgcacccaactgcgatctcccacttagctgctcttcttgcagctggcgga 1489
Qy 1670 tactccgtgaggtggtttggaccactataacagagccctcttctgcaagaccagccaaac 1729
Db 1490 tctgtatgaagggggcagcaccatctccgggctccatggtccacccctgcccacgc 1549
Qy 1730 tgcaaggtgcagatcagctgataacagagagctgacggaagagcttttctgtgtcca 1789
Db 1550 tgaacctcagga tgcacctgttagtgatgagctccggggaccggcgtttcttggcgaagtga 1609
Qy 1790 attccagaccttgatctgcgttccatcaacctgcagagggccgggacacacggctgc 1849
Db 1610 ggagattggcgtgacctggcagctctcaacatgcaacgaagccgggacacacggcttc 1669
Qy 1850 caggttacaatgagtgagggagttctgcggcctgctgcctggagaccccccgctgacc 1909
Db 1670 cagggtaacatgcttgaggcgctctctgtggcctctccagcccccggaatttggcacagc 1729

Qy 1910 tgagcacagccatccccagcagagcgtggccgacaaagatccctggaacttgtataacagcatc 1969
Db 1730 ttagccgggtgctgtaaaacacagagcttggcaaggaagtctcctgaattgtatggaacac 1789
Qy 1970 ctgacaacatcgatctctggtcggagccttagctgaaaaacttctcccccagggctcgga 2029
Db 1790 ctgacaacatigacatctggattggggccatcgctgagcctcttttgcgggggctcgag 1849
Qy 2030 caggccctcttctgctctcattgggaagcagatgaagcctctgcgggacggtgact 2089
Db 1850 tggggcctctctgctgctctgttcgagaacag--ttcagaagagccgagacggagaca 1908
Qy 2090 ggttttggtggagagacagcccgctcttcacggatgcacagagggcgtgagctggagaagc 2149
Db 1909 ggttctggtggcagacagaggtgttttcacc--aaagacagcgaagccctgagcagaa 1966
Qy 2150 actcctctctcgggtcctatctgtgacaacactggcctcaccaggggtgccatggatgct 2209
Db 1967 tttccttctcgaattatgtgacaatccoglatcaccacggtttcaagggacatct 2026
Qy 2210 tccaagtcggcaaatccccgaagacatttgacttctgtgacagcatcactggcatgaacc 2269
Db 2027 tcagagccaacatctaccctcggccttctgtgaactgcagccgtatccccaggttgaacc 2086
Qy 2270 tggagggcctggagggaacct 2290
Db 2087 tatcagcctggcaggggacat 2107

RESULT 12
AAF21441
ID AAF21441 standard; DNA; 6103 BP.

XX AC AAF21441;

XX DT 14-MAR-2001 (first entry)

XX DE Human eosinophil peroxidase polynucleotide fragment #3008.

XX KW Low adenosine antisenase oligonucleotide; phosphorothioate; allergy;
human; airway disorder; bronchoconstriction; lung inflammation;
surfactant depletion; respiratory; bronchodilator; antiinflammatory;
immunosuppressive; antialsthmatic; analgesic; hypotensive; cytostatic;
respiratory obstruction; pulmonary obstruction; impeded respiration;
surfactant hypoproduction; pulmonary vasoconstriction; asthma; RDS;
respiratory distress syndrome; pain; cystic fibrosis; allergic rhinitis;
pulmonary hypertension; emphysema; pulmonary transplantation rejection;
chronic obstructive pulmonary disease; pulmonary infection; bronchitis;
cancer; ss.

XX OS Homo sapiens.

XX PN WO200062736-A2.

XX PD 26-OCT-2000.

XX PF 24-MAR-2000; 2000WO-US08020.

XX PR 06-APR-1999; 99US-0127958.

XX PA (UYEC-) UNIV EAST CAROLINA.

XX PI (NYCE/) NYCE J W.

XX PY Nyce JW;

XX WI WPI; 2000-679539/66.

XX PT Low adenosine (A) content antisense oligonucleotides which do not
trigger adenosine receptors during metabolism, useful e.g. for treating
cancers and respiratory obstructions -
XX PS Disclosure; Page 142-143; 1592pp; English.

XX The present invention describes low adenosine (A) content antisense
 CC oligonucleotides and compositions (I) comprising them. In the antisense
 CC oligonucleotides the A is replaced by a 'Universal' or alternative base.
 CC (I) can have respiratory, bronchodilator, antiinflammatory, analgesic,
 CC immunosuppressive, antiasthmatic, hypotensive and cytostatic activities.
 CC The antisense oligonucleotides and (I) can be used to down-regulate the
 CC expression and/or activity of target polypeptides associated with the
 CC lung/respiratory disorders and malignancies, such as stimulating and
 CC activating peptide factors and transmitters, transcription factors,
 CC immunoglobulins and antibodies, antibody receptors, cytokines and
 CC chemokines, endogenously produced specific and non-specific enzymes,
 CC binding proteins, adhesion molecules and their receptors, cytokine and
 CC chemokine receptors, adenosine receptors, bradykinin receptors, central
 CC nervous system (CNS) and peripheral nervous and non-nervous system
 CC receptors, CNS and peripheral nervous and non-nervous system peptide
 CC transmitters, defensins, growth factors, vasoactive peptides and
 CC receptors, binding proteins and malignancy associated proteins. The
 CC antisense oligonucleotides may be used in this way to treat disorders
 CC including respiratory obstruction (especially pulmonary obstruction
 CC and/or bronchoconstriction) and/or lung inflammation, allergy(ies)
 CC and/or surfactant hypoproduction which are associated with a disease or
 CC condition selected from pulmonary vasoconstriction, inflammation,
 CC allergies, asthma, impeded respiration, respiratory distress syndrome
 CC (RDS), pain, cystic fibrosis (CF), allergic rhinitis (AR), pulmonary
 CC hypertension, emphysema, chronic obstructive pulmonary disease (COPD),
 CC pulmonary transplantation rejection, pulmonary infections, bronchitis,
 CC and/or cancer. AAF18434 to AAF21543 represent human polynucleotide
 CC fragments and antisense oligonucleotides used in the exemplification of
 CC the present invention.

XX Sequence 6103 BP; 1218 A; 1863 C; 1727 G; 1287 T; 8 other;

Query Match 14.3%; Score 438.2; DB 21; Length 6103;
 Best Local Similarity 55.8%; Pred. NO. 4.2e-86;
 Matches 983; Conservative 0; Mismatches 733; Indels 45; Gaps 6;

QY 530 acaatacaggcccatcacaggagcttgcacacacagagacacccacagatggggccct 589
 DB 3937 acaagtcacgcacacatcacttgagcgggtgcacacacagagagaccccttctgtagggccct 3996
 QY 590 ccaacacggccctggcacgagctccctccactatgatgagcggcttcagtcagcccc 649
 DB 3997 ccaacacggctctgctcgtcgtccgcgcagatgatgagtggtcgtcgtccct 4056
 QY 650 gaggtcgaaaccccgctcttcttcacacgggttcacacgtgccccgggtcccggaagtga 709
 DB 4057 tcggctggaccccccagcaggagggcgaatggcttcctctctctcttcttcgggctgtct 4116
 QY 710 caagacatgtcattcaagtctcaaatgaggttgcacagatgatcgcgtattctgacc 769
 DB 4117 ccaacacagatgtgcgtctcccaatgagagacgtgacctcccgacctggtccgagccctca 4176
 QY 770 tcttgatggatgggacatacatcagcacacacacacacacacacacacacacacacacac 829
 DB 4177 tgttcagcagtgggccagttcattgacacatgacctggaacttcccccagatccccgg 4236
 QY 830 gcaaaagctgccttcggggaggggtgctgactgcccagatgacttctgagaaacacacacac 889
 DB 4237 ccagatggccttcactcagggcgttgactgtgagagacctgcgccagctgccccct 4296
 QY 890 gttttccatacaactcccggaaggcccgccggccggccgacacgcgtgtgtccct 949
 DB 4297 gctttccatcaagatcccc-----accatgacccccgcacatcaagaacacgctgactg 4351
 QY 950 tctaccgctcttcggcgcgtcgcgcacggggacacaggcgcgtcttctgggaacctgt 1009
 DB 4352 catccttttctccgtcg-----gcacctcatgcccccaaa 4389
 QY 1010 ccacggcccaacccggcagcagatgaacgggttgacctgtcttcctggacgcgtccacgg 1069
 DB 4390 acaagaagagtgccgcaacacagatcaacgcgtcacctcttctgtggacgcgcagcatgg 4449

QY 1070 tgtatggcagctccccggcccttagagagcagctgcggaactggaccagtgcgaagggc 1129
 DB 4450 tgtatggcagtgaggtctccctctcgtcgtcgcgcgaacgcgaaccaactacctgggac 4509
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 DB 4510 tgcgtgcatcaacacagcgttctcaagacacacgcgcggcgcctgtgcctctcgacaac 4569
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 DB 4570 tgcacga-----tgacctgtctctccacacgcgcgcgcgcgcgcgcgcgcgcgcgc 4617
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 DB 4678 tctttatgc 4737
 QY 1370 ggc 1429
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 QY 1850 caggttacaatagtgaggaggttctgc 1909
 DB 5215 caggttacaatagtgaggc 5274
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 QY 2030 cagggccctcttgc 2089
 DB 5395 tggggcctcttgc 5453
 QY 2090 ggttttggggagaaacacgc 2149
 DB 5454 ggttctggtggcagaacacaggtgtttttcaccc---aaagacagcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgcgc 5511

Matches 1013; Conservative 0; Mismatches 790; Indels 42; Gaps 8;

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Qy 514 aacacttgctgcggaacaaataacagccccatcaacagagcttgcaacaacagagacc 573
Dy 2251 gacatgtgtctccacagaagtagccgacgacgacgacgacgacgacgacgacgacgac 2310
Qy 574 ccagatggggccctcccaacagccgcttgacgacgacgacgacgacgacgacgacgac 633
Dy 2311 cccatgggggctcctgctgacgacgacgacgacgacgacgacgacgacgacgacgacgac 2370
Qy 634 ggtctcagtcagcccgagctggaaccccgcttctgttacaacggtttcccaactgcc 693
Dy 2371 ggttcaaacacctcgggcatcaacccccacacgacgacgacgacgacgacgacgacgac 2430
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RESULT '15

AAQ11842

ID AAQ11842 standard; DNA; 2710 BP.

XX AAQ11842;

AC AAQ11842;

XX 02-AUG-1991 (first entry)

XX Bovine lactoperoxidase prepro enzyme gene.

XX LPO; autoimmune disease; antimicrobial; crosslinking agent;

KW immunosassay; preservative; ss.

XX Bos taurus.

XX Key

FH CDS

FT sig_peptide

FT Location/Qualifiers

123..2261

/*tag= a

123..201

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 QY 2089 tggtttgggtggagaaacagccacgtcttcacggtatgcacagagcgtgagctggagaag 2148
 Db 2052 aggtcttggtggagaaacctgggtcttctactgagaagcagcgggactctctacagaa 2111
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